

$$y = 3x + 5$$

$$y = 4x + 2$$

$$\begin{array}{rcl} \cancel{3x} + 5 & = & 4x + 2 \\ -\cancel{3x} & & -3x \end{array}$$

$$\begin{array}{rcl} 5 & = & 1x + 2 \\ -2 & & -2 \end{array}$$

$$\boxed{3 = x}$$

$$y = 3(3) + 5$$

$$\boxed{y = 14}$$

⇒ more substitution, solve the system 3/15/10  
 $x =$   $y =$

$$\textcircled{1} \quad y = 3x + 1 \quad y = 3(4) + 1 \quad \textcircled{2} \quad y = 7x - 10$$

$$y = 2x + 5 \quad \boxed{y = 13}$$

$$\begin{array}{r} 3x + 1 = 2x + 5 \\ -2x \quad -2x \\ \hline 1x + 1 = 5 \end{array} \quad \boxed{x = 4}$$

$$\textcircled{3} \quad y = 5x - 4$$

$$y = x + 12$$

$$(4, 16)$$

$$\textcircled{4} \quad y = 2x + 1$$

$$y = 5x - 14$$

$$(5, 11)$$

$$y = \underline{2x + 1}$$

$$3x + 2\underline{y} = 23$$

$$3x + 2(\underbrace{2x + 1}_y) = 23$$

$$\underline{3x} + \underline{4x} + 2 = 23$$

$$\begin{array}{r} 7x + 2 = 23 \\ -2 \quad -2 \end{array}$$

$$\frac{7x}{7} = \frac{21}{7}$$

$$\boxed{x = 3}$$

$$y = 2(3) + 1 \quad \boxed{y = 7}$$

Distribute and solve

$$\textcircled{1} \quad 2x + 2(3x + 1) = 18$$

$$\begin{aligned} 2x + 6x + 2 &= 18 \\ 8x + 2 &= 18 \\ -2 &\quad -2 \end{aligned}$$

$$\frac{8x}{8} = \frac{16}{8}$$

$$\boxed{x = 2}$$

$$\textcircled{3} \quad 5x + 3(2x - 4) = 10$$

$$5x + 6x - 12 = 10$$

$$\begin{aligned} 11x - 12 &= 10 \\ +12 &\quad +12 \end{aligned}$$

$$11x = 22$$

$$\boxed{x = 2}$$

$$\textcircled{2} \quad 3x + 4(x + 2) = 29$$

$$3x + 4x + 8 = 29$$

$$\begin{aligned} 7x + 8 &= 29 \\ -8 &\quad -8 \end{aligned}$$

$$\frac{7x}{7} = \frac{21}{7}$$

$$\boxed{x = 3}$$

$$\textcircled{4} \quad 3x - 2(x + 1) = 8$$

$$3x - 2x - 2 = 8$$

$$\begin{aligned} 1x - 2 &= 8 \\ +2 &\quad +2 \end{aligned}$$

$$\boxed{x = 10}$$

Solve the systems

①

$$y = \underline{2x + 3}$$

(1, 5)

$$2x + 3y = 17$$

$$2x + 3(2x + 3) = 17$$

②

$$y = x - 4$$

$$4x + 2y = 28$$

(6, 2)

③

$$5x + 2y = 24$$

$$y = 3x + 1$$

(2, 7)

④

$$x - y = -12$$

$$y = 3x + 2$$

(5, 17)

# Quiz

① Solve for  $x$  +  $y$

$$y = 3x + 1$$

$$y = 5x - 1$$

② Solve for  $x$

$$2x + 3(2x + 1) = 27$$

③ Solve for  $x$  +  $y$

$$y = 2x + 1$$

$$3x + 5y = 18$$